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09/891,903	06/26/2001	Kai H. Chang	3-9-24	1420

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EXAMINER

HOFFMANN, JOHN M

ART UNIT PAPER NUMBER

1731

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/891,903

Applicant(s)

CHANG ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) xxx. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The independent claims indicate that first environment can be “oxygen alone”; to examiner this is 100% oxygen. However the claim also requires that the environment cannot be “oxygen-rich”. But nothing can be more oxygen-rich than 100% oxygen. Looking to the specification - there is no specific embodiments. One of ordinary skill would be uncertain as to what is being claimed.

Line 5 of each independent claim reads “with at least one...”; it is unclear whether it is oxygen “with at least one,” or if it is an environment “with at least one...”

It is unclear if the list of additional gases of the independent claims is suppose to be a Markush limitation or not - specifically: whether the group of gases is open or closed to additional gases. The MPEP gives guidance on some acceptable Markush constructions.

The definitions on page 5 of the specification are indefinite. They refer to gases which are known: it is unclear as to who it is known and at what time. A potential infringer would not know if it is limited to gases that are known at the time of invention, the date of issue, or the date of potential infringement.

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Claim 4: it is unclear if the claim is suppose to be a Markush-type claim or what. It is unclear if the two members are open to additional members.

Claim 7: there is no antecedent basis for "the aging loss increase" (the last line). It is unclear if this could read on the loss after it ages 1 second.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Backer 5180411 in view of Tuminaro 6496627.

Backer discloses all of the claimed invention except for the exposure to deuterium.

The claimed forming of the glass core rod with the two regions is disclosed in Becker at col. 9, lines 34-42. The dehydrating is disclosed as using Chlorine and oxygen at col. 13, lines 24-40.

As to the environment being neither oxygen rich nor oxygen-deficient, one needs to look to the specification as to what this covers. The specification gives no numerical guidance as to what it requires. Page 9, lines 5-8 read:

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"For example, by adjusting oxidation-reduction conditions, the oxygen stoichiometry of the environment in which the core rod formation dehydration step 16 is formed is established in such a way that the environment does not have excessive oxygen atoms, nor is the environment oxygen-deficient.

It is inherent that the Backer environment is neither excessive nor deficient in its oxygen content - in that it produces the Backer fiber. The Office takes the position that all US Patents are enabled - thus it assumes that the Backer method functions properly.

The consolidation step is disclosed at col. 10, lines 39-40. The forming of the overclad is disclosed at col. 9, lines 42-45 and/or col. 10, lines 48-54.

Tuminaro discloses that deuterium exposure results in improved long term signal attenuation performance. See col. 2, lines 47-60, and col. 3, line 40 to col. 4, line 9. It would have been obvious to improve the long term performance of the Backer fiber, by exposing it to deuterium as disclosed by Tuminaro.

Claim 2: Backer clearly discloses drying all the glass layers in a chlorine/oxygen gas.

Claims 3 and 6: see col. 9, lines 24-25 of Backer.

Claim 4 appears to be written in a style similar to the Markush practice - except that the present claim has a group of two members that is not consisting in nature - i.e. it is open to other treatments. So, no matter what treatment one would use with the Backer-Tuminaro obvious combination, one could consider it to be a member of the two-member group. However, if the claim is to be interpreted literally - such would be allowable - it would not be obvious to have

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the two different types of exposing. One would interpret Tuminaro as disclosing only one exposure - of only one D2 partial pressure and one duration.

Claim 7 is substantially the same as claim 1, except that claim 7 also limits the loss and aging. Backer does not disclose these things. It would have been obvious to make perform the Backer/Tuminaro method, so that the fiber has the lowest possible transmission loss and the loss possible aging loss increase. It is noted that any evidence or argument that indicates that one of ordinary skill would not know how to have the claimed loss and loss increase, may be used as evidence in a rejection that the present invention is not enable, or that the claim lack a critical step.

The limitation of claims 8-11, 17 are substantially the same as the those of the claims discussed above and are met by the combination for substantially the reasons.

Claims 1 and,5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyobe 5262365 in view of Tuminaro 6496627 and Baumgart 4820322.

Oyobe discloses the invention except for the deuterium treatment and the overcladding. See Oyobe, col. 16, lines 1- 40. The heat treatment is deemed to be a dehydration (compare to Oyobe col. 12, lines 40-48.)

Tuminaro discloses that deuterium exposure results in improved long term signal attenuation performance. See col. 2, lines 47-60, and col, 3, line 40 to col. 4, line 9. It would have been obvious to improve the long term performance of the Oyobe fiber by exposing it to deuterium as disclosed by Tuminaro.

Baumgart discloses in col. 1 that one can make more fiber by overcladding a preform made by MCVD. That is, one can scale up an MCVD process - but that such requires overcladding with a tube. It would have been obvious to scale up the Oyobe process to make the preforms large 1 (as taught by Baumgart, and including overcladding with a tube) so that one can increase productivity.

Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Kyoto 4902325 or Backer 5190411 - when combined with Chandross 5240488 and Tuminaro 6496627.

Each of the primary references are directed to the formation of a fiber preform - which is treated in the gas atmosphere as claimed. However neither discloses an overcladding tube, the loss limitations or the deuterium treatment.

Chandross: col 2, line 49 to col.3, line 15 discloses that using a sol gel overclad tube is "far less costly " than the soot deposition techniques for creating the outermost cladding layers. It would have been obvious to use a cladding tube to create the outer layers of the Kyoto or Backer preform because such is "far less costly" than the soot deposition of Kyoto and Backer.

Tuminaro discloses that deuterium exposure results in improved long term signal attenuation performance. See col. 2, lines 47-60, and col, 3, line 40 to col. 4, line 9. It would have been obvious to improve the long term performance of the fiber, by exposing it to deuterium as disclosed by Tuminaro.

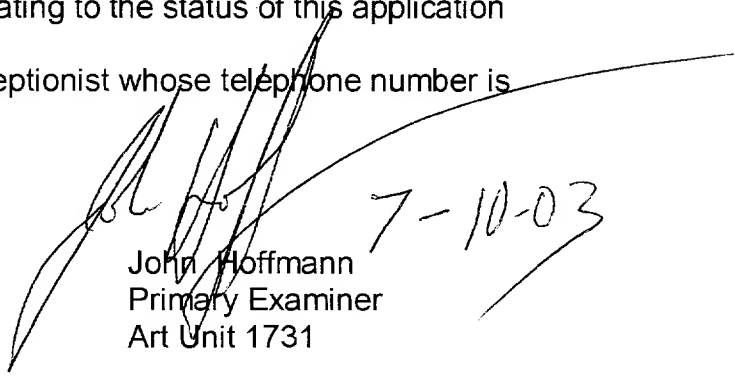
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It would have been obvious to make perform the Backer and Kyoto methods, so that the fiber has the lowest possible transmission loss and the loss possible aging loss increase. It is noted that any evidence or argument that indicates that one of ordinary skill would not know how to have the claimed loss and loss increase, may be used as evidence in a rejection that the present invention is not enable, or that the claim lack a critical step.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



John Hoffmann  
Primary Examiner  
Art Unit 1731

7-10-03